

Claim Listing

This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Original) A gas sensor comprising:

a resonator comprising a dielectric material, the resonator further including a layer comprising adsorptive nanostructures selected from the group consisting of degassed carbon nanotubes, activated carbon fibers, and adsorptive nanowires, wherein the dielectric material is in electrical communication with the layer comprising the adsorptive nanostructures such that the effective resonant frequency of the resonator depends upon the dielectric constant of the dielectric material and also depends upon the dielectric constant of the layer comprising the adsorptive nanostructures.

2. (Original) The gas sensor of claim 1 further comprising an analyzer in communication with the resonator for obtaining the resonant frequency of the resonator.

3. (Original) The gas sensor of claim 2, wherein the analyzer is in hard-wire communication with the resonator.

4. (Original) The gas sensor of claim 2, wherein the analyzer is in remote access communication with the resonator.

5. (Original) The gas sensor of claim 4, wherein the analyzer is in communication with the resonator via radio frequency signals.

6. (Original) The gas sensor of claim 1, wherein the resonator is a micro-strip circuit board resonator.

7. (Original) The gas sensor of claim 1, wherein the adsorptive nanostructures are degassed carbon nanotubes

8. (Original) The gas sensor of claim 7, wherein the degassed carbon nanotubes comprise single-walled carbon nanotubes.

9. (Original) The gas sensor of claim 7, wherein the degassed carbon nanotubes comprise multi-walled carbon nanotubes.

10. (Original) The gas sensor of claim 1, wherein the layer comprising adsorptive nanostructures is about 2 μ m in depth.

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11-43. Cancelled.